

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

March 17, 2014

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
2020 SW Fourth Avenue, Suite 400
Portland Oregon 97201-4987

HAI Project No. 2708
DEQ ECSI File No. 84

SUBJECT: Progress Report, NW Natural Gasco Property, 7900 NW St. Helens Avenue, Portland, Oregon

Dear Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report summarizing Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural that have occurred relating to the Gasco property during the month of February 2014. NW Natural is completing upland investigatory activities at the subject property under the Voluntary Agreement No. ECVV-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

1.0 Communications and Document Submittals

In e-mail correspondence dated February 4, 2014 (Rob Ede to Dana Bayuk), HAI described the generation and disposition of impacted groundwater from within the Koppers Leasehold portion of the Gasco site.

In e-mail correspondence dated February 5, 2014 (Rob Ede to Dana Bayuk), HAI transmitted the *Pre-Excavation Soil Disposal Sampling Plan – Natural Gas Line Exposure and Inspection Work* (Pre-Excavation Sampling Plan) to address characterization of soils prior to removal from the site as part of infrastructure maintenance activities.

In e-mail correspondence dated February 5, 2014 (Dana Bayuk to John Edwards), DEQ provided acknowledgement of receiving notice from NW Natural related to re-development of select groundwater extraction wells.

In e-mail correspondence dated February 13, 2014 (Rob Ede to Dana Bayuk), HAI summarized a February 11, 2014 telephone conversation with DEQ in which DEQ approved the February 5, 2014 *Pre-Excavation Sampling Plan*.

In correspondence dated February 13, 2014 (Dana Bayuk to Bob Wyatt), DEQ provided comments related to review of the October 2013 *Revised Hydraulic Source Control and Containment (HC&C) System Groundwater Model Update Report, NW Natural Gasco Site*.

In correspondence dated February 20, 2014 (John Renda to Dana Bayuk), Anchor QEA provided DEQ with the anticipated schedule for the -0.3 foot set-point test of the HC&C System.

In e-mail correspondence dated February 20, 2014 (Dana Bayuk to Rob Ede), DEQ provided written approval of the February 5, 2014 *Pre-Excavation Sampling Plan*, with

the clarifications as were included in e-mail dated February 13, 2014 (Rob Ede to Dana Bayuk).

Program Management Implementation meetings were conducted with DEQ on February 10 and 20 to discuss the NW Natural program management and project schedules.

A meeting (teleconference) with representatives of NW Natural, DEQ, EPA, and Siltronic was conducted on February 20, 2014 to discuss DEQ-requested revisions to the HC&C System Model Update Report.

In correspondence dated February 26, 2014 (Dana Bayuk to Bob Wyatt), DEQ provided approval with clarifications from review of the November 20, 2013 letter regarding the NW Natural Integrated Groundwater Monitoring Program.

In e-mail correspondence dated February 27, 2014 (John Edwards to Dana Bayuk), Anchor QEA requested an extension to submit the revised version of the *HC&C System Model Update Report* from March 17 to March 21. DEQ approved the request in e-mail correspondence the same day (Dana Bayuk to John Edwards).

In correspondence dated February 28, 2014 (Dana Bayuk to Bob Wyatt), DEQ provided comments from review of NW Natural's responses to DEQ's November 27, 2013 review of the *RI Data Summary Report and Field Sampling Plans, Historical Manufactured Gas Plant Activities, Siltronic Property*. DEQ's comments also included review of the *Revised Supplemental RI Field Sampling Plan, Doane Creek Embankment Soil and Sediment*, dated January 29, 2014.

2.0 Field Work

HAI field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during February. The system recovered approximately 20 gallons of fluids, primarily DNAPL, during this time. The system underwent repairs on February 17, 2014 at which time a cracked airline was repaired.

Tasks related to optimization of the hydraulic control and containment system and the wastewater treatment system were conducted in February 2014, including redevelopment of selected extraction wells, Willamette River outfall construction, and initiation of a 0.3-foot set-point extraction well test.

Baseline DNAPL removal as needed to maintain at levels below the tops of the well sumps, was conducted by Anchor QEA in the following wells near the river shoreline.

- PW-01-80
- PW-2L
- MW-PW2L
- MW-26U
- MW-34L
- MW-38U

Discharge of treated water to the City of Portland sanitary sewer was initiated on March 16, 2007 under Temporary Wastewater Discharge Permit 500.022 (expires February 15, 2017). Results from NW Natural's effluent sampling are provided to BES in Discharge

Monitoring Reports that are submitted for any month that effluent sampling occurs – which is at least quarterly in accordance with the permit. As of February 26, 2014 a total of 3,592,138 gallons of treated water have been discharged to the sanitary sewer in 2014, of which 2,295,254 gallons were treated groundwater from the source control extraction system, with the remainder being treated groundwater from the LNG containment basin.

On February 17, 2014 NW Natural discontinued discharge to the sanitary sewer of treated groundwater derived from the source control extraction system and redirected that discharge to the Willamette River via National Pollutant Discharge Elimination System (NPDES) Permit No. 103061 (expires August 31, 2018). Results from NW Natural's effluent sampling are provided to DEQ in Discharge Monitoring Reports that are submitted on a monthly basis in accordance with the permit. As of February 28, 2014 a total of 1,249,005 gallons of treated water were discharged under the NPDES permit.

Two push probe borings were installed at the property by NW Natural on February 19, 2014 in two areas of proposed natural gas pipeline maintenance and repair activities. The purpose of these activities was the collection of soil samples so that a waste disposal profile could be completed for soils at each location prior to initiation of excavation activities.

3.0 Anticipated Activities March and April 2014

NW Natural and DEQ technical working group communications and meetings are anticipated to occur as needed during March and April 2014 to discuss ongoing project tasks.

The Phase 1 Step 4 -0.3 foot set-point test of the HC&C system was completed on March 10, 2014.

A revised version of the October *Revised Hydraulic Source Control and Containment (HC&C) System Groundwater Model Update Report* is anticipated to be submitted to DEQ on March 21, 2014 in response to a February 13, 2014 DEQ comment letter.

A report of the findings from the Phase 1 Step 4 -0.3 foot set-point test of the HC&C system is expected to be provided to DEQ by April 10, 2014.

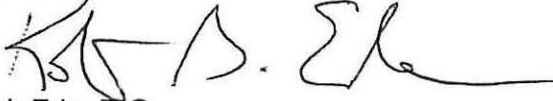
Field activities as related to approved RI Field Sampling Plans related to Historical Manufactured Gas Plant Activities at the Siltronic property are anticipated to be initiated during the referenced timeframe.

The following reports and work plans for the Site have been submitted to DEQ through the date of this progress report. Unless otherwise noted, NW Natural has not received DEQ comments on these documents.

- *Gasco Upland Human Health and Ecological Risk Assessment Report*, dated October 24, 2013, Anchor QEA. (Preliminary comments received December 12, 2013). DEQ has stated that comments from review, inclusive of conditional approval of this document, will be issued by March 19, 2014.
- *Fill Water-Bearing Zone Trench Investigation Work Plan*, dated November 18, 2013, Anchor QEA. DEQ has not at this time provided a date by which comments from review of this document will be provided.

Should you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rob Ede', with a stylized flourish at the end.

Rob Ede, R.G.
Principal

robe@hahnenv.com

- c:
- Mr. Bob Wyatt, NW Natural (electronic only)
 - Ms. Patty Dost, Pearl Legal Group PC (electronic only)
 - Ms. Sarah Riddle, Pearl Legal Group PC (electronic only)
 - Mr. Carl Stivers, Anchor QEA, L.L.C. (electronic only)
 - Mr. John Edwards, Anchor QEA, L.L.C. (electronic only)
 - Mr. Ben Hung, Anchor QEA, L.L.C. (electronic only)
 - Mr. Ryan Barth, Anchor QEA, L.L.C. (electronic only)
 - Mr. Henning Larsen, DEQ NW Region (electronic only)
 - Mr. Tom Gainer, DEQ NW Region (electronic only)
 - Mr. Keith Johnson, DEQ NW Region (electronic only)
 - Mr. Myron Burr, Siltronic Corporation (electronic only)
 - Ms. Kristine Koch, Region 10 EPA (electronic only)
 - Mr. Sean Sheldrake, Region 10 EPA (electronic only)
 - Mr. Rene Fuentes, Region 10 EPA (electronic only)
 - Mr. Chip Humphrey, Region 10 EPA (electronic only)
 - Mr. Lance Peterson, CDM, Inc. (electronic only)